Neonatal BCG vaccination

Please look at the Policy for BCG vaccination on the Tuberculosis portal. Additionally, there is further information available on the TB intranet site.

Epidemiology: Tuberculosis (TB)
TB is a common notifiable disease. UK TB incidence is high compared to other Western European countries: 8,751 cases in 2012, giving an incidence of 13.9/100,000 population\(^1\). It is most likely to occur in large urban areas, amongst young adults, people from countries with high incidence of TB, and those with social risk factors for TB.

In Wales 43% of new cases are born within the UK\(^1\). Of those born outside the UK, they mainly originate from South Asia (60%) and sub-Saharan Africa (22%). Rates of TB among non UK-born population were almost 20 times the rate in UK-born population; 80 per 100,000. This rate has declined over the last seven years. However, in the UK-born population, rates have not changed, remaining stable at 4.1/100,000 per year.

Within this population, those most at risk remain individuals from ethnic minority groups, those with social risk factors and the elderly. The proportion of TB cases with resistance to any first-line drug (7.4%) was slightly lower in 2012 than in 2011, while the proportion of multi-drug resistant (MDR) TB cases (1.6%) remained stable\(^2\).

Neonatal BCG is safe and effective, with an overall protective value of 75%\(^3\).

Risk factors for TB infection
- Close contact with TB patient
- Ethnic minority groups
- Homeless patients, alcoholics and other drug abusers
- Elderly
- Children

Vaccine Bacillis Calmetter-Guerin (BCG) vaccine contains a live attenuated strain derived from M. bovis. BCG Vaccine Statens Serum Institut (SSI) is the only available licensed vaccine in the UK. It contains the Danish strain 1331. BCG vaccine does not contain thiomersal or any other preservatives. It contains live organisms that have been attenuated (modified)\(^4\).

Dose BCG Vaccine Neonate: 0.05mls, intradermal injection.

Technique Skin stretched between thumb and forefinger and needle (25G or 26G) inserted (bevel upwards) for about 3mm into superficial layers of dermis (almost parallel with surface). Needle should be short with short bevel (can usually be seen though epidermis during insertion). Tense raised blanched bleb showing tips of hair follicles is sign of correct injection.; 3mm bleb = 0.05ml injection; if considerable resistance is not felt, needle is too deep and should be removed and re-inserted before giving more vaccine. To be injected at insertion of deltoid muscle onto humerus (keloid formation more likely with sites higher on arm); tip of shoulder should be avoided.

Links
- BCG information in different languages
- DoH information: TB and BCG
- Wales Public Health: TB
Indications for BCG vaccination

BCG is recommended for UK-born infants aged 0-12 months in the following instances provided no contra-indications:

- All infants and children with a parent or grandparent who was born in a country where the annual incidence of TB is high (40/100,000 or greater).
- Incidence rates of TB (worldwide)
- Were born in an area with a high incidence of TB (40/100,000 or greater) eg. London, Manchester, Leicester there are currently no areas within Wales with this incidence.
- New entrants under 16 years of age who were born in or who have lived for prolonged period (at least 3 months) in a country with an annual TB incidence of 40/100,000 or greater.
- Have a family history of treated TB within the past 5 years. Identified and screened by TB service.
- Babies born to mothers or families with a history of intravenous drug abuse1.

Contraindications to BCG vaccination

- Sick infants
- Babies born into households where someone has been recently diagnosed or has untreated TB should not be routinely vaccinated with BCG, but urgent advice should be sought from the TB specialist team (details below).
- Babies and young children at risk of being HIV positive should not receive routine BCG, but be referred to an appropriate paediatrician for advice / review.

Identification of eligible babies

- Booking midwife identifies those babies for whom BCG is indicated.
- Community midwife ensures indication for BCG is recorded on the care plan.
- Full and informative discussion should take place with woman during antenatal period.
- If parents decline immunisation, this should be clearly documented in the notes and reason given why.

Referral for BCG

NICU If the baby is discharged from NICU it is the responsibility of the Neonatal Intensive Care Team to ensure that a referral for BCG has been made (if appropriate); and if the BCG needs to be delayed for clinical reasons, to inform the TB service.

Postnatal ward Identify babies where BCG indicated. Discuss with parents using relevant language specific device where applicable (see language leaflet). Complete BCG Vaccination Referral Form (appendix 3 of Policy for BCG vaccination). Make referrals to. BCG/TB Clinic, Primary Care Sevice Centre (PCSC), First Floor, Cardiff Royal Infirmary, Newport Road, Cardiff, CF2 0SZ, Tel: 02920 33 5121, Fax: 02920 335126. Advise parents to expect an appointment letter for the BCG vaccination.

TB Clinical Nurse Specialists

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References


Dr Chrissy Oliver and Dr S Barr January 2015, to be January 2018.